On the Contineuous Method of Preparation of Viscose. (I) : On the Continuous Mercerisation

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Fabrics	Plastic liq. & the condition of appilcation			Degree of Recovery from of the Treated				Creasing of the Untrated		The increased Amt. of Recov.	
				warp		weft		warp	weft	warp	waft
	liq.	dip min	cure min	Angle	(%)	Angle	(%)	(%)	(%)	(%)	( )
Spun Ravon Serge a	(A_2) 1/2.5	1.5	5	139	77.4	139.5	77.6	61.7	55.5	15.7	22.1
〃 〃	〃 1/3	2	6¼	1335	74.2	135	75.0	〃	〃	12.5	19.5
〃 〃	〃 〃	4	6¼	132	73.4	131.5	73.1	〃	〃	11.9	17.6
Spun Rayon Mouss eline	(A_2) 1/3	2	6¼	148	82.2	152.5	84.0	56.0	61.0	26.2	23.8
〃	〃 〃	4	6¼	145	80.6	153.0	85.0	〃	〃	24.6	24.0
Rayon Crape	〃	50′		136	75.5	127.5	84.0	39.5	40.0	36.0	30.9
	〃	3	3								
Benberg Crape	〃			149	82.0	123.0	68.4	71.1	60.0	11.7	8.4
	〃	4	7								
Cotton Broad Cloth	〃			94.5	52.3	96.0	54.0	37.0	40.0	15.0	14.0
	〃	2	6¼								

the following date as tested by the improved Shirley Institute Method.

These results actually surpass those which as hitherto been usually obtained, and this the author deem to have originated from the fact that the proportion of the plastics, both thermosetting and thermoplastic in nature were distributed and set in and out of the fiber itself, the fromer mostly in the core.

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32. On the Contineuous Method of Preparation of Viscose. (I)

On the Continuous Mercerisation

Masao Horio and *Michihiro Takahama*

(Horio Laboratory)

It was found that the following method was effctive for the preparation of slury of alkali-cellulose in the course of the continuous process of manufacutring the alkali-cellulose by means of the screw press.

A cylindrical space has a rotaing shaft equipped with a number of bars as in a stirrer, into wich the pulp is charged from one side with a definite proportion of alkali liquor. While these two are moved forward a slury is prepared together with a proper condition for an effective mercerization, and these are transported directly to the scew press. Those number of bars afford a best efficiency when they

are inbeded to the shaft so as to form a screw line when radially connected from one to the next.

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33. On the Possibilities of the Attainment to Azeotropic Conditions in the Copolymerization of Vinylacetate and Acrylonitrile

Takao Yamashita and *Masako Tsuchiya*

(Sakurada Laboratory)

As already known in two-components systems, the azetoropic conditions are attained following cases;

$$\frac{r_1M_1+M_2}{M_1+r_2M_2}=1$$

at the equation of the composition;

$$\frac{dM_1}{dM_2}=\frac{M_1}{M_2}\cdot\frac{r_1M_1+M_2}{M_1+r_2M_2}$$

in which M_1 and M_2 represent the concentration of comonomers, r_1 and r_2 the monomer reactivity ratios respectively.

In this paper, we considered on the case of three-components and, finally found that the azeotropess in respect of M_1 and M_2 should be attained at the following conditions;

$$\frac{\left(r_1+\frac{M_2}{M_1}+C_1r_1\frac{M_3}{M_1}\right)\left(2+C_2r_2\frac{M_3}{M_1}\right)}{\left(C_1+r_2\frac{M_2}{M_1}+C_2r_2\frac{M_3}{M_1}\right)\left(2+C_1r_1\frac{M_3}{M_2}\right)}=$$

in which $r_1=k_{11}/k_{12}$, $C_1=k_{13}/k_{11}$ and $C_2=k_{23}/k_{22}$. Putting $M_3/M_1=x$ and $M_2/M_1=K$, then;

$$(r_1+K+C_1r_1x)(2+C_2r_2x)=(1+r_2K+C_2x)\left(2+C_1r_11\frac{K}{1}x\right)$$

From above equation, we will obtain x at giving C_1, C_2, r_1, and r_2, and also K.

At the copolymerisation of vinylacetate and acrylonitrile with using diethylfumarate or trichloroethylene as the third components, x was obtained as a larger value than unity. Therfore the azeotrope was found to be practically impossible to attain by these directions.